

Understanding lambs & carcasses for better returns





Contents

- 3 Selecting finished lambs
- 5 R3L/U4H comparison
- 6 Carcase classification
- 8 Conformation differences
- 9 Cut-through and fat levels
- 10 Bruising and wool pull
- 11 Does weight pay?
- 12 Classification examples

Introduction

Many in the sheep industry are talking about consistency. Returns can be improved by delivering a product that fits the needs of the customer. This means deciding which market to target, researching it and making breeding, feeding and production decisions with those market requirements in mind.

This booklet highlights the good and the bad in terms of carcase quality, fat levels and conformation. Its aim is to help producers understand the specifications of the market and to illustrate some of the factors that can effect carcase value and therefore producer returns.

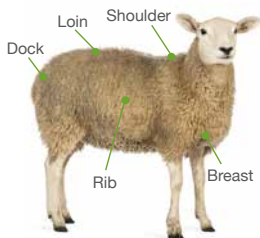
Steve Powdrill
National Selection Specialist

Selecting finished lambs

Weight and visual appraisal are general guides to an animal's readiness for market, but to ensure accurate selection, handling the live animal is essential.

Five key handling points give the best indication of level of finish and fat class.

To assess conformation, feel the animal at the shoulder and loin. To assess fat level, feel the animal at the dock, loin, rib and breast.



Assessing conformation

Shoulder



Loin



Conformation

- E** Spinous processes undetectable, flesh creating a very convex profile, very broad shoulder area
- U** Spinous processes just detectable, flesh beginning to create a convex profile
- R** Spinous processes less prominent with flesh creating a straight profile under the hand
- O** Spinous processes still prominent, less concave with some evidence of flesh beginning to fill the hand
- P** Very prominent spinous processes evident, very concave profile to the centre of the hand

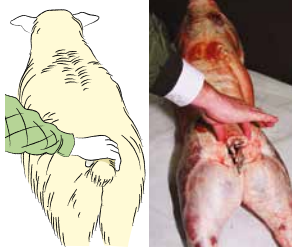


Selecting finished lambs

Assessing fatness

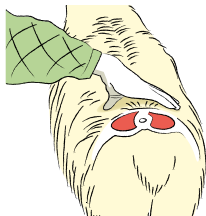
Dock

1. Individual bones very easy to detect
2. Individual bones easy to detect with light pressure
3. Moderate pressure to detect individual bones
4. Firm pressure to detect individual bones
5. Individual bones cannot be detected



Loin

1. Very easy to feel between processes which are very prominent
2. Prominent spinous and transverse processes felt easily
3. Tips of processes rounded. Individual bones felt as corrugations with light pressure
4. Spinous processes felt with moderate pressure; transverse processes felt with firm pressure
5. Individual processes cannot be felt



Rib

1. Individual ribs feel very bare, prominent and easy to detect
2. Individual ribs show slight cover but still easy to detect
3. Individual ribs have softer feel, with fat cover becoming more evident in between and over ribs, which are now less easy to detect
4. Individual ribs are only detectable with firm pressure
5. Individual ribs are undetectable, soft, rolling, spongy feel



R3L/U4H comparison

R3L – 19.5 kg

U4H – 26.5 kg



4 chops = 454 g

4 chops = 705 g



R3L plate waste =
92 g or 20.6%
Edible = 362 g

U4H plate waste =
344 g or 48.79%
Edible = 361 g

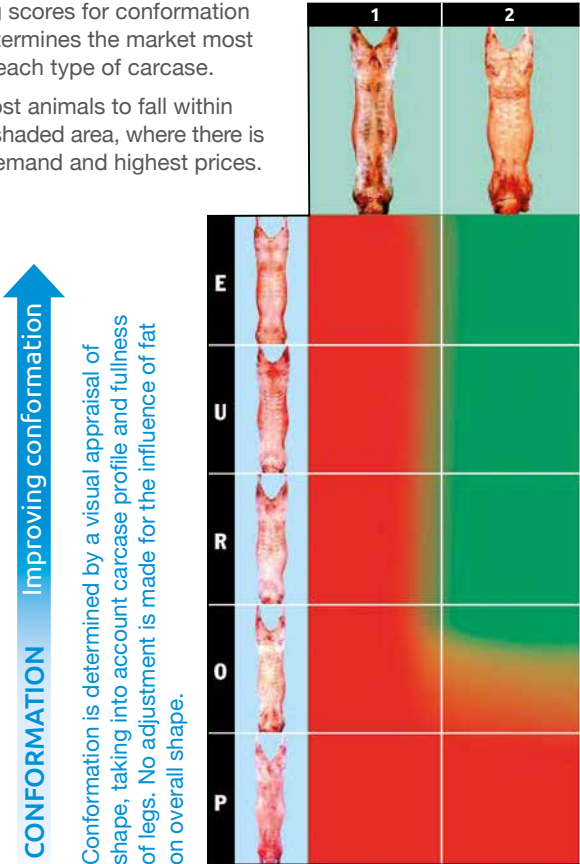
Carcase classification

The current grading system for carcasses in the UK and Europe uses the EUROP classification for conformation and a numeric assessment for fatness (classes 1–5).

Combining scores for conformation and fat determines the market most suited for each type of carcase.

Aim for most animals to fall within the green shaded area, where there is greatest demand and highest prices.

FAT CLASS

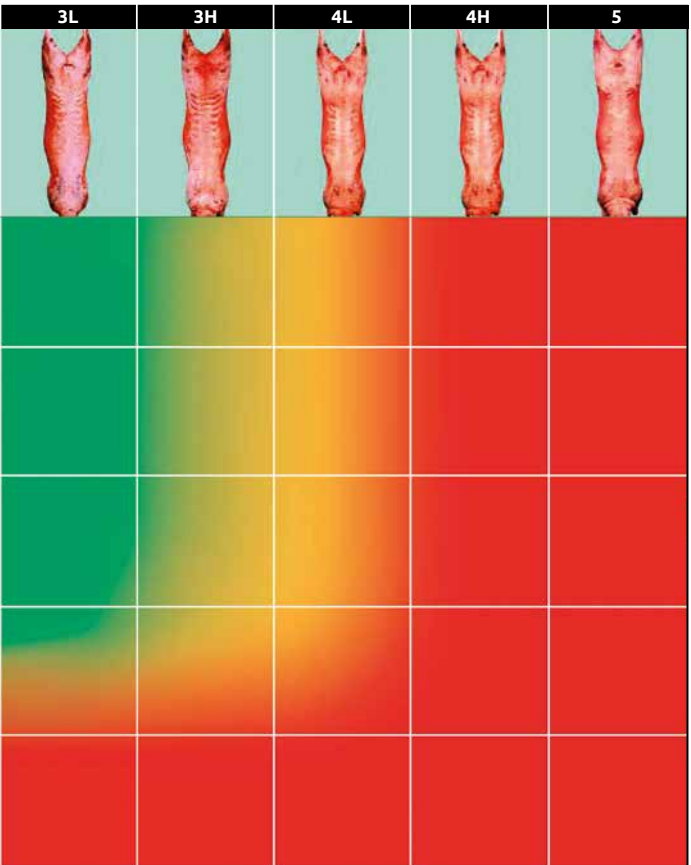


Yield data

Fat class	1	2	3L	3H	4L	4H	5
Saleable cuts (%)	94.87	92.95	91.52	90.56	89.61	88.65	87.22
Fat trim (%)	3.91	5.92	7.44	8.46	9.47	10.49	12.02
Bone and waste (%)	1.22	1.12	1.04	0.98	0.92	0.86	0.77

Increasing fatness

Fat is determined by visual assessment of external fat cover. There are five main classes. Classes 3 and 4 are subdivided into L (leaner) and H (fatter)



Market signals



Little or no demand
Discount prices
Poorest returns

Medium demand
Average prices
Moderate returns

High demand
Premium prices
Best returns

Conformation differences

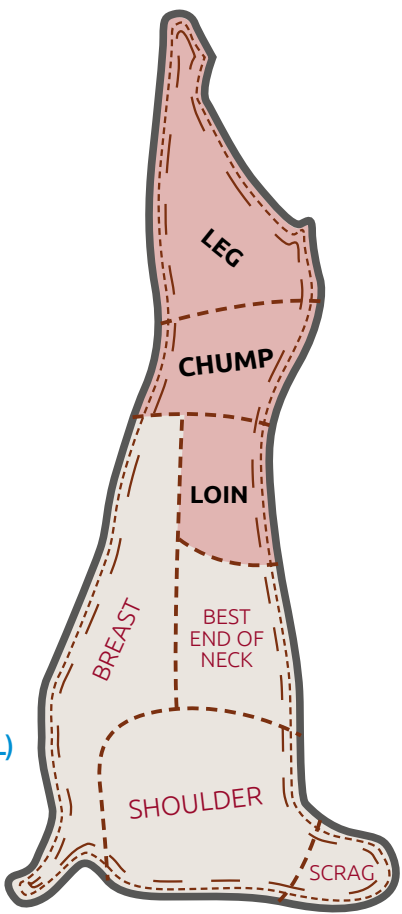
Poor carcass (P2)



Good carcass (R3L)



Excellent carcass (E3L)

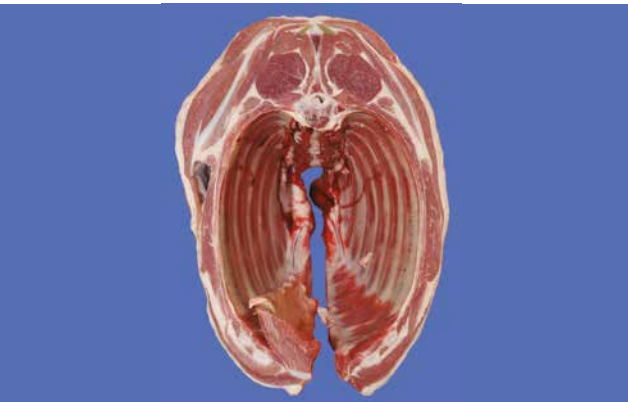


Cut-through and fat levels

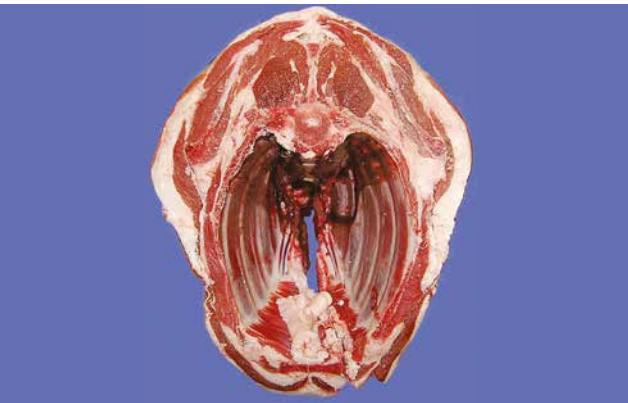
Lean (R2)



Ideal (R3L)



Too fat (R4H)



Bruising and wool pull

Sensitive handling is vital for animal welfare and avoids damage that shows up after slaughter.

Sheep bruise easily, particularly young lambs.

Bruising and abscesses lead to wasteful trimming and even partial condemnation of the carcase, which in turns reduces saleability and the amount paid to the producer.



Do not:

- ✗ Handle and move sheep by grabbing wool. This creates a bruise which will require trimming at the processing plant
- ✗ Allow sheep to be trampled during transport
- ✗ Allow sheep to trample over each other in races during handling or selection
- ✗ Leave any sharp objects in races, trailers or on gates, etc.

Always:

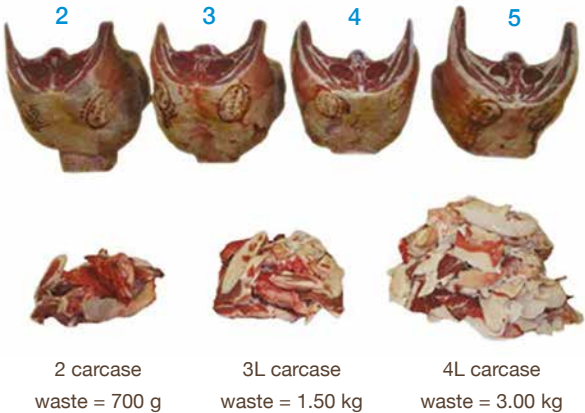
- ✓ Use clean injection needles to avoid infection in the skin
- ✓ Choose injection site with care (neck wherever possible)

Does weight pay?

Additional weight may pay but not if only putting on fat.

If looking to add weight, consider the following:

- Increasing fat levels beyond optimum will have price penalties
- Increasing weight for no return
- Increasing feed costs per kg produced
- Reducing feed availability for sheep remaining



R3L versus R4H

R3L = base price/kg

R4H = -30p/kg

21 kg x 30p = £6.30 loss by getting the carcass to a R4H

Remember, most abattoirs only pay up to an upper limit deadweight (20, 21 or 22 kgs).

Check with your outlet to find out their upper limit.

Images kindly provided by Dunbia

01 Classification example



Conformation

Profiles straight to concave; average muscle development.

Legs

Profiles tending to be slightly concave.

Loin

Lacking width and fullness.

Shoulder

Tending to be narrow, lacking fullness.

Fat

None up to very low fat cover.

External

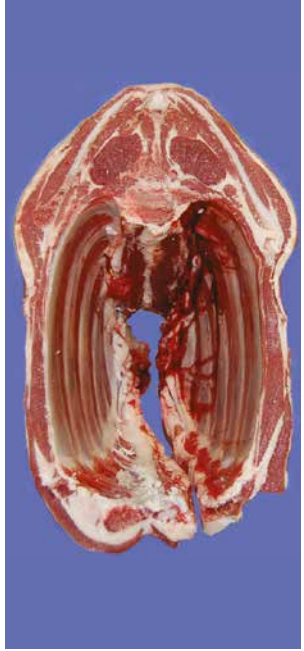
Traces of or no fat cover.

Internal

Abdominal: traces of or no fat visible on the kidneys.

Thoracic: traces of or no fat visible between the ribs.

02 Classification example



Conformation

Profiles straight to concave; average muscle development.

Legs

Profiles tending to be slightly concave.

Loin

Lacking width and fullness.

Shoulder

Tending to be narrow, lacking fullness.

Fat

Slight fat cover, flesh visible almost everywhere.

External

A slight layer of fat covers part of the carcass but may be less evident on the loin and shoulders. There may be a lack of firmness in the flank area.

Internal

Abdominal: traces of fat or a slight layer of fat envelops part of the kidneys.

Thoracic: muscle clearly visible between the ribs.

R3L Classification example



Conformation

Profiles generally straight; good muscle development.

Legs

Profiles mainly straight.

Loin

Full, but less width to the shoulder.

Shoulder

Good development, but less full.

Fat

Flesh, with the exception of the leg and shoulder, almost entirely covered with a thin fat cover; slight deposits in the thoracic cavity.

External

A layer of fat covering most or the entire carcass; slightly thickened fat zones at the base of the tail.

Internal

Abdominal: light layer of fat envelops the kidneys.

Thoracic: muscle still visible between the ribs.

R3H Classification example



Conformation

Profiles generally straight; good muscle development.

Legs

Profiles mainly straight.

Loin

Full, but less width to the shoulder.

Shoulder

Good development, but less full.

Fat

Flesh, with the exception of the leg and shoulder, almost entirely covered with thickening fat cover; increasing deposits in the thoracic cavity.

External

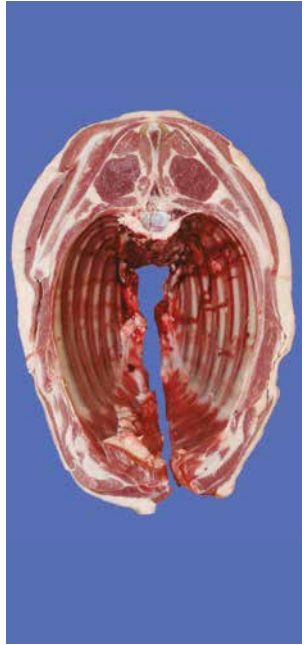
A light layer of fat covering most or the entire carcass; thickened fat zones at the base of the tail, over the chump loin and shoulder.

Internal

Abdominal: thicker layer of fat envelops part or all of the kidneys.

Thoracic: slight fat deposits may be visible between the ribs.

R4L Classification example



Conformation

Profiles generally straight; good muscle development.

Legs

Profiles mainly straight.

Loin

Full, but less width to the shoulder.

Shoulder

Good development, but less full.

Fat

Flesh covered with fat, but still partly visible on the legs and shoulder; some distinctive fat deposits in the thoracic cavity.

External

A thick layer of fat covering most or all of the carcass, but may be thinner on limbs and thickening on shoulders.

Internal

Abdominal: kidney is enveloped in fat.

Thoracic: muscle between the ribs may be slightly infiltrated with fat; deposits may be visible on the ribs.

R5 Classification example



Conformation

Profiles generally straight; good muscle development.

Legs

Profiles mainly straight.

Loin

Full, but less width to the shoulder.

Shoulder

Good development, but less full.

Fat

Carcass thickly covered with fat; heavy fat deposits in the thoracic cavity.

External

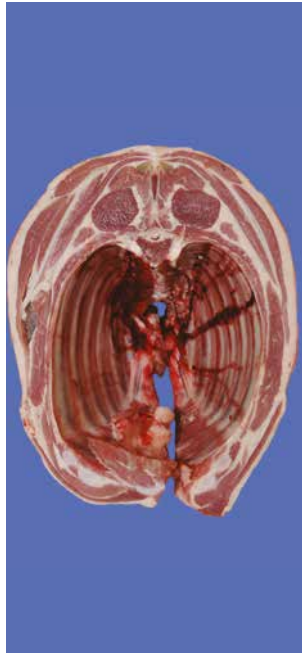
Very thick fat cover, patches of fat sometimes visible. The flank will be very thick, firm to the touch, with very heavy flank fat deposits.

Internal

Abdominal: kidneys enveloped in thick layer of fat.

Thoracic: muscle between the ribs infiltrated with fat; deposits visible on the ribs.

U3H Classification example



Conformation

Profiles generally convex; very good muscle development.

Legs

Full, profiles convex.

Loin

Wide and full to the shoulder.

Shoulder

Convex and full.

Fat

Flesh, with the exception of the leg and shoulder, almost entirely covered with thickening fat cover; increasing deposits in the thoracic cavity.

External

A light layer of fat covering most or the entire carcass; thickened fat zones at the base of the tail, over the chump loin and shoulder.

Internal

Abdominal: thicker layer of fat envelops part or all of the kidneys.

Thoracic: slight fat deposits may be visible between the ribs.

U4H Classification example



Conformation

Profiles generally convex; very good muscle development.

Legs

Full, profiles convex.

Loin

Wide and full to the shoulder.

Shoulder

Convex and full.

Fat

Flesh covered with fat; distinctive fat deposits in the thoracic cavity.

External

A thick layer of fat covering most or the entire carcass. The flank will be thick, firm to the touch, with heavy flank fat deposits.

Internal

Abdominal: kidneys enveloped in fat.

Thoracic: muscle between the ribs infiltrated with fat; deposits may be visible on the ribs.

Produced for you by:

AHDB Beef & Lamb

Middlemarch Business Park
Siskin Parkway East
Coventry
CV3 4PE

T 024 7647 8834

E brp@ahdb.org.uk

W ahdb.org.uk



If you no longer wish to receive this information,
please email us on comms@ahdb.org.uk

AHDB is a statutory levy board, funded by farmers, growers and others in the supply chain. We equip the industry with easy to use, practical know-how which they can apply straight away to make better decisions and improve their performance. For further information, please visit ahdb.org.uk

While the Agriculture and Horticulture Development Board seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law, the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

© Agriculture and Horticulture
Development Board 2023.
All rights reserved.

